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Big-eyed Bugs

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Big-eyed bugs, *Geocoris* spp., are small insects that occur in many parts of the world. They are generally regarded as beneficial because they prey upon numerous kinds of insect and mite pests of turf, ornamental and agricultural crops. They are found in many agricultural crops, pasture land, and surrounding areas. Big-eyed bugs are "true bugs" (Hemiptera) in the family Anthocoridae. Both immature stages (nymphs) and adults feed on a variety of small prey, including spider mites, insect eggs, aphids, thrips, and small caterpillars. Both adults and nymphs feed by sucking juices from their prey through a sharp, needle-like beak, which is characteristic of all true bugs.

Description

Big-eyed bugs are small (approximately 1/6 inch long) oval, stout bodied insects that have relatively thick antennae. Their head is broad with large, widely separated bulging eyes providing them with a wide field of vision. The big-eyed bug mouth is tucked under the head and body at rest but is flexible and can be positioned in front of the head when feeding. The common species in the estern U.S. vary in color from shiny black to grey or yellowish with red-brown spots.

Entomology & Nematology. University of Florida
Entnemdept.ufl.edu

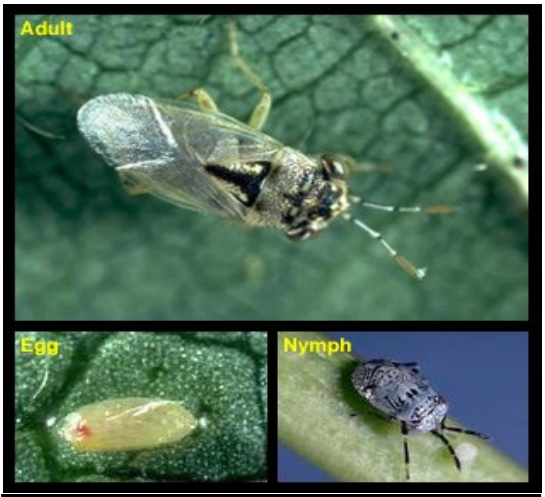
Life cycle

Big-eyed bugs overwinter as adults. As with any insects, life cycle is dependent on temperature. Eggs are laid singly on leaves or stems hatch in approximately one week.

Nymphs, (juveniles) look like the adults, only smaller and without wings. They can also have a bluish-purple to red hue. Nymphs go through five instars (juvenile stages) that are less than 4 mm (3/16 inch) in length. Young instars are tiny and are easily overlooked. With each successive instar they shed their skin, develop wing pads, and grow larger.

Adults, are 3-5 mm (3/16 inch or less) long with 2 pairs of fully functional wings (forewings and hindwings). The forewings are hardened at the base and membranous at the tip.

The eggs hatch in approximately one week and for each of the five nymphal instars lasts from 4 to 6 days.



Statewide Integrated Pest Management Program
University of California. Ipm.ucanr.edu

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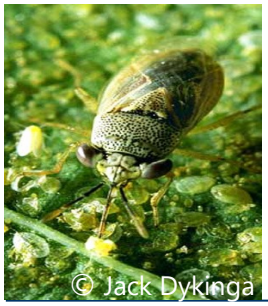

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Benefits

The potential for *Geocoris* spp. as biological controls in natural systems has been well stablished. Adults and immatures can consume dozens of prey per day. Adult big -eyed bugs eat around 80 spider mites per day. However, due to the small size and cryptic nature of this beneficial, quantification of predation in the field is difficult.

Big-eyed bugs are beneficial insects that can eliminate large number of harmful insects from the greenhouses and fields of cotton, peanuts and soybean. Big-eyed bugs can survive for extended periods if provided sufficient moisture and alternative nutrient sources such as sunflower seeds, but they are unable to develop and reproduce successfully without prey.

Oregon State University, http://uspest.org/mint/bigeyeid.htm

Conservation

Big-eyed bugs cannot be purchased through commercial suppliers, but they occur naturally and are common in most landscapes, gardens and crops. There are several strategies that can be used to encourage big-eyed bug populations.

First, minimizing the use of pesticides is important for preserving big-eyed bug populations. Many pesticides are just as or more harmful to big-eyed bugs as they are to pest insects. Big-eyed bugs can be conserved by eliminating or reducing pesticides that are toxic to insect predators.

Second, consider using “soft” or selective pesticides that target the pest more specifically and are less harmful to predator populations. Read pesticide label to understand product attributes.

Third, encourage big-eyed bug populations and enhance their activity by providing them alternative places to hide, eat, and live. In general, habitats with diverse plantings appear to be more attractive to predators. Consider planting cover crops or flowering plants that may provide alternative food sources, shelter, and overwintering sites. Cover crops such as crimson clover and vetch may enhance populations of big-eyed bug and improve predation against pests in some crops.

Fourth, actively scout for beneficial insects while monitoring for pests. If benefitials are observed, be sure to consider them when developing an integrated pest management (IPM) program.

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